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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/905,418	07/13/2001	Sunil Kulkarni	US 019011	4726

7590 12/03/2003
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EXAMINER

SUNG, CHRISTINE

ART UNIT PAPER NUMBER

2878

DATE MAILED: 12/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/905,418

Applicant(s)

KULKARNI ET AL.

Examiner

Christine Sung

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2878

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21 and 22 is/are allowed.
- 6) ☒ Claim(s) 1-13 and 16-19 is/are rejected.
- 7) ☒ Claim(s) 14, 15 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 and 13 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 25 August 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Response to Amendment

1. The amendment filed on 8/25/2003 was accepted and entered.
2. The drawing amendments filed on 8/25/2003 were accepted and entered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
5. Claim 1-9 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thiel (US Patent 4,887,211) in view of Rodriguez, et al. (US Pre Grant Publication 2002/0154146 A1).

Regarding claim 1, Thiel discloses an image processor comprising: a detector (Column 4, lines 35-39) that acquires event data; and image processor (element 28) that processes the even data to produce image data; an image data storage medium (element 28), which stores the image data. Further it is inherent that the apparatus includes an image data processor because the

apparatus has the ability to format the image data for storage on the storage medium (column 5, lines 31-34). Thiel does not specifically disclose that the image data for storage on the storage medium is in an extensible and open data format. However it is well known in the art, as shown by Rodriguez et al. (see claim 4) to use an extensible markup formal or xml format for images. It would have been obvious to use an extensible or open format with the invention as disclosed by Thiel so that the images taken from the camera could be manipulated and formatted for desired applications. The xml or open format is well known in the art as an open format that can be converted to various types of desired formats, which gives the user of the camera system added flexibility in determining how to process the given data and free range in choosing the preferred format.

Regarding independent claim 17, Thiel discloses an image processor that uses a nuclear camera system comprising: a detector (column 4, lines 35-39), used to acquire event data; an image processor (element 28) to process the event data to produce image data; acquisition controller (element 34) to control the detector; and a control data storage medium (see claim 4 and 5), coupled to the controller which stores control data. Thiel does not specify the use of xml format, but does not specify the type of image format. It is well known in the art as shown in Rodriguez et al. (see claim 4), to use an xml format for images so that the images can be modified for different types of applications with different formatting requirements. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the xml format disclosed by Rodriguez with the invention disclosed by Thiel so that the data collected from Thiel's invention could be used in various formatting applications.

Regarding claim 2, Thiel discloses the limitations set forth in claims 1 and 10, but does not specify the type of image format. It is well known in the art, as shown in Rodriguez et al. (see claim 4), to use an xml format for images so that the images can be modified for different types of applications with different formatting requirements. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the xml format disclosed by Rodriguez with the invention disclosed by Thiel so that the data collected from Thiel's invention could be used in various formatting applications.

Regarding claim 3, the limitations set forth in claims 1 and 2 are disclosed above. Although the references do not explicitly state that the data format is self-descriptive, it is inherent in xml format that the data format is self-descriptive.

Regarding claim 4, 5 and 6, the limitations set forth in claim 3 are disclosed in the abovementioned paragraphs. Further, the claims disclose various descriptions of being self-descriptive. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have included the disclosed various formats with the invention as disclosed by Thiel in view of Rodriguez.

Regarding claims 7 and 8, all of these claims disclose the use of a pointer to point to an address of a file stored on the camera system, or a URL address where the image data definition may be found. Although the references do not explicitly state pointing to any of the aforementioned files, it would have been obvious that the image file could point to any of the aforementioned files. Since the image file points to a file storing definition of the image data format it could also point to a file stored on the camera system or a URL address. It would only be a matter of design choice as to where the image data would be sent because where the pointer

is directed depends upon where the data is intended to be used, i.e. if it is desired to be viewed on a web page, a pointer to a URL address would be appropriate.

Regarding claim 9, the limitations set forth in claim 6 are described in the abovementioned paragraphs. Further, it is inherent when using an xml file to have the data file in the form of a ".xml" file and also to have the image data format file in a ".dtd" form. Both of these forms are inherent to xml type image files.

Regarding claim 18, the limitations set forth in claim 17 are described in the abovementioned paragraphs. Further, it is obvious to one having ordinary skill in the art at the time the invention was made to couple a hard drive or some form of a storage medium with the invention disclosed by Thiel, so that the image information may be transferred or modified at a later time. It is well known in the art to have a storage medium to store images that have been processed.

Further, regarding claim 19, it is also obvious that if the image data files are stored, that the image data files are also accessible by user commands.

Further regarding claims 18 and 19, all of the functions disclosed in the aforementioned claims are inherent to a conventional computer processor.

6. Claims 10-13 and 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Thiel (US Patent 4,887,211) in view of Senn et al. and further in view of Rodriguez (US Pre Grant Publication 2002/0154146).

Regarding claim 10, Thiel discloses an image processor that uses a nuclear camera system comprising: a detector (column 4, lines 35-39), used to acquire event data; an image processor (element 28) to process the event data to produce image data; acquisition controller

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(element 34) to control the detector. Thiel does not specify a control data storage medium, coupled to the acquisition controller which stores control data in an xml format. Senn et al. discloses a processing device including a control data storage medium that stores control data in an open format (see paragraph 4, lines 29-41). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the control data storage medium disclosed by Senn with the invention disclosed by Thiel in order to be able to correlate the control data to the image data in a desired format. Although Thiel does not specifically disclose that the image data for storage on the storage medium is in an extensible and open data format, Rodriguez discloses the use of a xml format for images. IT would have been obvious to one having ordinary skill in the art at the time the invention was made to sue an extensible or open format with the invention as disclose by Thiel in view of Senn so that the images taken from the camera could be manipulated and formatted for desired applications. The xml or open format is well known in the art and would be obvious to use in this type of processing as it is desirable to have the ability to manipulate image data and/or event data using desired file types.

Regarding claim 11, Thiel discloses the limitations set forth in claims 1 and 10, but does not specify the type of image format. It is well known in the art, as shown in Rodriguez et al. (see claim 4), to use an xml format for images so that the images can be modified for different types of applications with different formatting requirements. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the xml format disclosed by Rodriguez with the invention disclosed by Thiel so that the data collected from Thiel's invention could be used in various formatting applications.

Regarding claim 12, the limitations set forth in claim 11 are described in the abovementioned paragraphs, however, it is well known in the art to display the control data used at the time of the data accumulation, such as protocol data, collimator data, isotope data, and energy window data. It is well known in the art in image collection applications to include control data, for example when x-ray images are taken, a tag including the control data is supplemented with the image to inform the user of the parameters used while acquiring the image data.

Regarding claim 13, the limitations set forth in claim 12 is described in the abovementioned paragraphs. Further, "protocols.xml, collimators.xml, isotope.xml and energywindowsets.xml" are all standard forms of the xml format.

Regarding claim 16, the limitations set forth in claim 13 is described in the abovementioned paragraphs. Further, the ".dtd," by xml definition, are pointed to by the xml files.

Response to Arguments

7. Regarding applicants argument that the presently claimed invention is directed to a nuclear medicine system and not to an X-ray CT system, the argument is not persuasive. It is well known in the art that CT systems and nuclear medicine systems are analogous forms of radiation imaging, as many elements in both types of systems are interchangeable. Although the images may be different and may require different processing components, the motivation for using the open format for the acquired data remains the same. The use of the open data format in both a CT system and nuclear medicine system is to have the flexibility of manipulating and processing the acquired data to desired formats and data extraction techniques.

8. Regarding the argument that the image processor processes event data and not image data is not persuasive. Although Thiel does not specifically disclose processing the image data into an open format, he does disclose in the abstract that various operations are done on the image data and a processing apparatus for sequentially performing processing operations on the image data is disclosed. Again, an open format is well known in the art, as demonstrated by Rodriguez, and one of ordinary skill in the art would have been motivated to include the

9. Regarding the argument that the control data is stored in an extensible and open format is moot in view of the new rejection.

10. Regarding the argument that the use of the Rodriguez reference is improper is not persuasive. The use of the Rodriguez reference is merely to demonstrate the xml image formats are not novel and that they are frequently used to create files that are in a "universal" format, meaning that the data that resides in these xml or open format files can be manipulated/transferred/processed into other desired processing formats. The use of the image in the Rodriguez reference is not relevant, because the purpose of the reference is to teach that the xml or open format is a well known file format.

Allowable Subject Matter

11. Claims 21-22 are allowed.
12. Claims 14, 15 and 20 are objected to as being dependent upon a rejected base claim.
13. The following is a statement of reasons for the indication of allowable subject matter:
The allowable subject matter was indicated in the prior office action.

Conclusion


14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Sung whose telephone number is 703-305-0382. The examiner can normally be reached on Monday- Friday 7-4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 703-308-4852. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Christine Sung
Examiner
Art Unit 2878

CS


DAVID PORTA
SUPERVISORY PATENT EXAMINER
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